

CLEAN VERSION OF THE PENDING CLAIMS

1 ~~29~~ 29. (Amended) A storage method used by instruction storing means that  
2 stores a virtual machine instruction sequence generated by compiler to be executed by a  
3 virtual machine, having a stack architecture,  
4 the storage method being characterized by storing each virtual machine instruction  
5 in the virtual machine instruction sequence associated with different succeeding  
6 instruction information, the succeeding instruction information for a given virtual  
7 machine instruction indicating a change in a storage state of data in a stack due to  
8 execution of a virtual machine instruction executed after the given virtual machine  
9 instruction.

1 ~~30~~ 30. (Amended) A storage method used by instruction storing means that  
2 stores a virtual machine instruction sequence generated by compiler to be executed by a  
3 virtual machine,  
4 wherein the storage method results in:  
5 the instruction storing means being a plurality of instruction blocks that constitute  
6 the virtual machine instruction sequence, the instruction blocks corresponding to basic  
7 blocks;  
8 the instruction blocks each including:  
9 an identifier area for storing an identifier that specifies a start position of the  
10 instruction block in the instruction storing means;  
11 a non-branch instruction area for storing non-branch instructions belonging to a  
12 corresponding basic block;  
13 a branch instruction area for storing at least one branch instruction belonging to  
14 the corresponding basic block; and

15 each branch instruction stored in the branch instruction area designating a branch  
16 destination using an identifier stored in one of the identifier areas.

BT  
CT  
1 31. A computer-readable recording medium that stores a program to have a  
2 computer function as a virtual machine with a stack architecture,  
3 wherein the virtual machine comprises:  
4 stack means for temporarily storing data in a last-in first-out format;  
5 instruction storing means for storing a virtual machine instruction sequence and a  
6 plurality of sets of succeeding instruction information, wherein each virtual machine  
7 instruction in the virtual machine instruction sequence is associated with a set of  
8 succeeding instruction information that indicates a change in a storage state of the data in  
9 the stack means due to execution of a virtual machine instruction executed after the  
10 associated virtual machine instruction;  
11 read means for reading a virtual machine instruction and an associated set of  
12 succeeding instruction information from the instruction storing means; and  
13 decoding-executing means for specifying and executing operations corresponding  
14 to a combination of the read virtual machine instruction and the read set of succeeding  
15 instruction information.

BZ  
39. (Amended) A storage method used by instruction storing means that  
2 stores a virtual machine instruction sequence generated by compiler to be executed by a  
3 virtual machine,  
4 wherein the storage method results in:  
5 the instruction storing means being a plurality of instruction blocks that constitute  
6 the virtual machine instruction sequence, the instruction blocks corresponding to basic  
7 blocks;  
8 the instruction blocks each including,

9 an identifier area for storing an identifier that specifies a start position of the  
10 instruction block in the instruction storing means;  
11 a non-branch instruction area for storing non-branch instructions belonging to the  
12 corresponding basic block; and  
13 a branch instruction area for storing at least one branch instructions belonging to  
14 the corresponding basic block.

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1 40. A storage method of Claim 39,  
2 wherein the identifier of the instruction block is an address related information in  
3 the virtual machine instruction sequence.

1 41. A storage method of Claim 40,  
2 wherein the address related information is one of absolute address, relative  
3 address, and offset address.

1 42. A storage method Claim 40,  
2 wherein whether each virtual machine instruction is positioned at a start position  
3 of the basic block is indicated by an address in the virtual machine instruction sequence to  
4 which the virtual machine instruction is allocated;  
5 a virtual machine instruction at the start position of the basic block being allocated  
6 to a specific address in the virtual machine instruction sequence, and  
7 a virtual machine instruction at other than the start position of the basic block  
8 being allocated to an address other than the specific address.

1 43. A storage method of Claim 40,  
2 wherein virtual machine instructions of the virtual machine instruction sequence  
3 each comprises:

4 an identifying unit for storing identification information which indicates if the  
5 virtual machine instruction is positioned at a start position of the basic block; and  
6 an operation specifying unit for specifying an operation to be executed by the  
7 virtual machine.

1 44. A storage method of Claim 40,  
2 wherein the instruction storing means comprises:  
3 the basic blocks; and  
4 identification tags, each designates an address related information of the virtual  
5 machine instruction at a start position of the basic block; attachment of the tag indicating  
6 if the virtual machine instruction corresponding to the identification tag is positioned at  
7 the start position of the basic block..

1 45. A computer-readable recording medium for recording a program that  
2 enables a computer to carry out the storage method according to Claim 30.

1 46. A computer-readable recording medium for recording a program that  
2 enables a computer to carry out the storage method according to Claim 39.

1 47. A computer-readable recording medium for recording a program that  
2 enables a computer to carry out the storage method according to Claim 40.

1 48. A computer-readable recording medium for recording a program that  
2 enables a computer to carry out the storage method according to Claim 41.

1 49. A computer-readable recording medium for recording a program that  
2 enables a computer to carry out the storage method according to Claim 42.

1           50.     A computer-readable recording medium for recording a program that  
2 enables a computer to carry out the storage method according to Claim 43.

1           51.     A computer-readable recording medium for recording a program that enables a  
2 computer to carry out the storage method according to Claim 44.